

**REMARKS/ARGUMENTS**

Reconsideration and allowance of this application are respectfully requested.

Currently, claims 1-2, 4-7 and 9-12 are pending in this application.

**Rejection Under 35 U.S.C. §112:**

Claim 1 was rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement requirement. In particular, the Office Action held “Regarding claim 1, the specification does not disclose ‘a pointer table of which the entries each comprise a network address and an associated pointer to and to (sic) an entry in the said data table.’” Applicant respectfully disagrees with this holding of the Office Action. In particular, page 6, lines 24-29 of the specification states the following:

“In the scheme shown in Figure 4, an incoming data packet having a network address (IPA, IPB, IPC etc) is caused to generate an entry in the hash table 16 (if it be a new address) and to provide access to an address pointer in the hash table if such entry is already there. The hash table contains a multiplicity of entries each of which contains the network address of a remote station and an address pointer which points to the entry in the associated data table 17 containing the media access control address (e.g. MACG1)....”

In addition to the above written portion of the specification, Fig. 4 illustrates table 16 having entries comprising network addresses 162 and associated pointers 163 which point to an entry in data table 17. Accordingly, Applicant submits that both the written specification and Fig. 4 of the drawings clearly supports the above claimed feature. Nevertheless, claim 1 has been amended to recite a “hash table” in order to expedite

allowance of the application. Other claims (e.g., independent claim 4) still recite a "pointer table." For the reasons discussed above, Applicant submits that the claimed "pointer table" is clearly enabled by the specification.

Accordingly, Applicant submits that claim 1 is in full conformance with 35 U.S.C. §112, first paragraph, and therefore respectfully requests that the rejection of claim 1 be withdrawn.

**Rejection Under 35 U.S.C. §103:**

Claims 1-11 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Michels et al (U.S. '144, hereinafter "Michels") in view of Sekine et al (U.S. '188, hereinafter "Sekine"). Applicant respectfully traverses this rejection with respect to still pending claims 1-2, 4-7 and 9-11.

In order to establish a prima facie case of obviousness, all of the claimed limitations must be taught or suggested by the prior art and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.

Applicant respectfully submits that the combination of Michels and Sekine fails to teach or suggest each element of the claimed invention. For example, Applicant submits that the combination fails to teach or suggest a first table (referred to as the "hash table" in claims 1-2 and the "pointer table" in claims 4-5) containing entries including a network address and an associated pointer which point to entries in a second table containing

entries including a media access control address but not a network address, as required by claims 1-2, 4-7 and 10-11. Applicant also submits that the combination fails to teach or suggest a first data table containing entries each comprising a network address and a pointer which points to entries in a second data table each including a destination media access control address, wherein the network address data and the media access control address data are separately held in different ones of the data tables and different entries in the first data table can contain pointers to the same data entry in the second data table to avoid redundant storage of common media access control data for different network addresses, as required by independent claim 9.

Exemplary embodiments of the present invention thus relate to a pair of tables in which the second table (i.e., the table that is being pointed to) contains MAC addresses but not network addresses. The network addresses and corresponding MAC addresses may be separately held in two different tables (see, e.g., claim 9 which states "...network address data and media access control data are held separately in different ones of the said first and second data tables;..."). Pointers from various different network addresses may point to the same MAC address. A more compact storage of data may therefore be accomplished as redundant storage of common media access control data for different network addresses may be avoided.

Michels fails to disclose any of the above claimed features. In particular, the Office Action admits on page 6, lines 11-13, "Michels does not disclose a pointer table of which the entries each comprise a network address and an associated pointer to an entry

in the said data table, which comprises media access control address and an identification of a port.”

However, the Office Action apparently alleges that the above claimed feature “would have been obvious to one having ordinary skill in the art because Sekine (figures 8 and 10), for example, discloses pointers pointing to the table of MAC addresses along with network addresses associated with MAC addresses.” (See page 6, last paragraph of the Office Action). Applicant respectfully disagrees with this allegation. Sekine fails to teach or suggest pointers to a combined network address/MAC address table as alleged. Moreover, Sekine fails to disclose pointers from a table having a network address to a data table having a MAC address (but not a network address), and therefore fails to remedy the above-discussed deficiencies of Michels.

Figure 8 of Sekine illustrates a packet buffer (see also column 4, lines 46-47) and only has pointers to the next buffer and (when relevant) succeeding buffer if the packet spans a plurality of buffers. Figure 10 of Sekine illustrates an address learning table 42 (see also column 12, lines 13 to 24) which has a learning ability derived from source addresses and ports and provides destination port information when the destination is read from the packet buffer. At this stage of the process, which uses bridge processing means 3, only the MAC address and ports are considered.

The third layer destination network address is handled via routing processing means 5, which references a routing table 61 (shown in detail in Figure 11) and an Address Resolution Protocol table 62 (shown in detail in Figure 12). If there were a

pointer from the network (IP) address back to the table illustrated in Figure 10, the structure illustrated Figures 11 and 12 would not be required. However, the system of Sekine has no facility or suggestion of this. The combination of Sekine and Michels therefore fails to teach or suggest the claimed pointer table (or hash table) and data table wherein the pointer table includes network addresses and the data table includes media access control addresses but not network addresses. Sekine also fails to even contemplate reducing the need for a table having a width of an IP address and MAC address, or in eliminating multiple MAC entries where multiple network (IP) addresses have the same MAC address and port (i.e., avoiding redundant storage of common MAC data for different network addresses), which stem from the above features of the present invention.

Dependent claim 2 explicitly requires pointers from different network addresses in the hash table pointing to the same MAC address in the data table thereby reducing the needed memory space by avoiding redundant storage of common MAC addresses. The combination of Sekine and Michels fails to teach or suggest this claimed feature.

Accordingly, Applicant respectfully submits that claims 1-2, 4-7 and 9-11 are not "obvious" over Michels and Sekine and respectfully requests that the rejection of these claims under 35 U.S.C. §103 be withdrawn.

**New Claims:**

New claim 12 has been added to provide additional protection for the invention. Claim 12 requires, inter alia, "...pointers from network addresses in said first data table

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having a common media access control address in said switch identifying a single common entry in said second table.” Applicant thus submits that claim 12 is allowable.

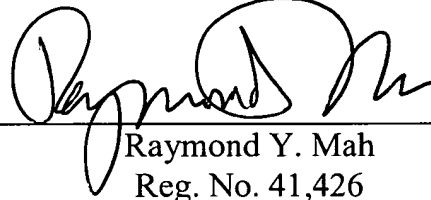
**Conclusion:**

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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